

Title (en)  
MATERIAL LAYER PRODUCTION METHOD, THREE-DIMENSIONAL OBJECT PRODUCTION METHOD, MATERIAL LAYER FORMATION DEVICE, AND LAMINATION MOLDING SYSTEM

Title (de)  
MATERIALSCHICHTHERSTELLUNGSVERFAHREN, VERFAHREN ZUR HERSTELLUNG EINES DREIDIMENSIONALEN OBJEKTS, MATERIALSCHICHTFORMUNGSVORRICHTUNG UND LAMINIERUNGSFORMUNGSVERFAHREN

Title (fr)  
PROCÉDÉ DE PRODUCTION DE COUCHE DE MATÉRIAU, PROCÉDÉ DE PRODUCTION D'OBJET TRIDIMENSIONNEL, DISPOSITIF DE FORMATION DE COUCHE DE MATÉRIAU ET SYSTÈME DE MOULAGE PAR STRATIFICATION

Publication  
**EP 3753707 A4 20211201 (EN)**

Application  
**EP 19754119 A 20190213**

Priority  
• JP 2018024117 A 20180214  
• JP 2019005023 W 20190213

Abstract (en)  
[origin: EP3753707A1] A method for manufacturing a material layer includes a first step S101 of arranging first particles P1 in a pattern on a base material 11 and a second step S102 of arranging second particles in regions in which the first particles P1 are not arranged on the base material 11. The second step S102 includes a step of rubbing bearing materials S2 that carry the second particles P2 against the base material 11 on which the first particles P1 are arranged.

IPC 8 full level  
**B29C 64/188** (2017.01); **B22F 1/10** (2022.01); **B22F 3/105** (2006.01); **B22F 3/16** (2006.01); **B22F 5/00** (2006.01); **B22F 10/62** (2021.01); **B22F 10/68** (2021.01); **B22F 12/50** (2021.01); **B22F 12/63** (2021.01); **B28B 1/30** (2006.01); **B29C 64/165** (2017.01); **B32B 37/12** (2006.01); **B33Y 10/00** (2015.01); **H01M 4/04** (2006.01); **H01M 4/13** (2010.01); **H01M 4/139** (2010.01); **H01M 4/62** (2006.01); **H01M 10/052** (2010.01); **H01M 10/0562** (2010.01); **H01M 10/0585** (2010.01); **B22F 1/05** (2022.01); **B22F 1/052** (2022.01); **B22F 1/16** (2022.01)

CPC (source: EP US)  
**B22F 1/10** (2022.01 - EP US); **B22F 3/1021** (2013.01 - US); **B22F 5/006** (2013.01 - EP); **B22F 7/008** (2013.01 - EP); **B22F 7/06** (2013.01 - EP); **B22F 10/10** (2021.01 - EP US); **B22F 10/43** (2021.01 - EP US); **B22F 10/62** (2021.01 - EP US); **B22F 10/68** (2021.01 - EP US); **B22F 12/50** (2021.01 - EP US); **B22F 12/55** (2021.01 - EP US); **B22F 12/57** (2021.01 - EP US); **B32B 37/12** (2013.01 - EP); **B32B 38/10** (2013.01 - EP); **B33Y 10/00** (2014.12 - EP); **B33Y 30/00** (2014.12 - EP US); **B33Y 40/20** (2020.01 - EP); **B33Y 80/00** (2014.12 - EP); **H01M 4/139** (2013.01 - EP); **H01M 10/056** (2013.01 - EP); **H01M 10/0585** (2013.01 - EP); **B22F 1/052** (2022.01 - EP US); **B22F 10/64** (2021.01 - EP US); **B22F 10/73** (2021.01 - EP US); **B22F 12/13** (2021.01 - EP US); **B22F 12/63** (2021.01 - EP US); **B22F 12/86** (2021.01 - EP US); **B22F 2301/052** (2013.01 - US); **B22F 2301/054** (2013.01 - US); **B22F 2301/15** (2013.01 - US); **B22F 2998/10** (2013.01 - EP US); **B22F 2999/00** (2013.01 - EP); **B29C 64/147** (2017.08 - US); **B33Y 10/00** (2014.12 - US); **B33Y 70/00** (2014.12 - EP US); **H01M 2300/0065** (2013.01 - EP); **Y02E 60/10** (2013.01 - EP); **Y02P 10/25** (2015.11 - EP); **Y02P 70/50** (2015.11 - EP)

C-Set (source: EP US)  
EP  
1. **B22F 2999/00 + B22F 10/64 + B22F 3/1021 + B22F 10/43**  
2. **B22F 2999/00 + B22F 10/62 + B22F 2003/244 + B22F 10/43**  
3. **B22F 2999/00 + B22F 7/06 + B22F 7/008 + B22F 5/006**  
4. **B22F 2998/10 + B22F 10/00 + B22F 10/68 + B22F 10/62 + B22F 10/64**  
US  
1. **B22F 2999/00 + B22F 10/64 + B22F 3/1021 + B22F 10/43**  
2. **B22F 2999/00 + B22F 10/62 + B22F 2003/244 + B22F 10/43**  
3. **B22F 2998/10 + B22F 10/00 + B22F 10/68 + B22F 10/62 + B22F 10/64**

Citation (search report)  
• [X] US 2017014910 A1 20170119 - NG HOU T [US], et al  
• [XY] CN 105308772 A 20160203 - ENOVIX CORP  
• [XY] JP 2006172913 A 20060629 - NISSAN MOTOR  
• [E] EP 3551787 A1 20191016 - HIRTENBERGER ENG SURFACES GMBH [AT]  
• See also references of WO 2019159942A1

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EP3903969A1; US11185922B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 3753707 A1 20201223; EP 3753707 A4 20211201**; CN 111727112 A 20200929; JP 2019137060 A 20190822; JP 2023087024 A 20230622; JP 2024050564 A 20240410; JP 2727163 B2 20230518; JP 7418135 B2 20240119; US 11911824 B2 20240227; US 2020368818 A1 20201126; US 2024157438 A1 20240516; WO 2019159942 A1 20190822

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**EP 19754119 A 20190213**; CN 201980013649 A 20190213; JP 2019005023 W 20190213; JP 2019022618 A 20190212; JP 2023075780 A 20230501; JP 2023222951 A 20231228; US 202016989717 A 20200810; US 202418420526 A 20240123